DOCUMENT RESUME

ED 223 759 UD 022 608

AUTHOR	Shore, Rima, Ed.; And Others
TITLE	Seward Park High School, Washington Irving High School, Chinese Bilingual Education Program. E.S.E.A. Title VII Final Evaluation Report, 1980-81.
INSTITUTION	New York City Board of Education, Brooklyn, N.Y. Office of Educational Evaluation.
SPONS AGENCY	Department of Education, Washington, DC.
PUB DATE	81
GRANT	G008006609
NOTE	72p.; For related document, see ED 202 934.
PUB TYPE	Reports - Descriptive (141)
EDRS PRICE	MF01/PC03 Plus Postage.
DESCRIPTORS	*Achievement Gains; *Bilingual Education Programs; *Chinese Americans; English (Second Language); High Schools; Limited English Speaking; Mathematics Achievement; Native Language Instruction; *Program Effectiveness; *Program Implementation; Science Instruction; Social Studies; Vocational Education
IDENTIFIERS	Elementary Secondary Education Act Title VII; New York City Board of Education

ABSTRACT

The Secondary Chinese Bilingual Education Program, which operates at two high school sites in New York City, is designed to develop English language skills and provide academic and vocational instruction to Chinese speaking students of limited English proficiency. This report describes the program as it was implemented in 1980-81. The program description includes the demographic content; participant characteristics; objectives and organization; the instructional component, consisting of English as a Second Language, native language instruction, content area classes, vocational training, cultural awareness, and bilingual instruction; noninstructional and supportive services; staff development; community involvement; and program evaluation. Evaluation results indicate that participants made gains in English as a Second Language and generally did well in mathematics, science, social studies, native language arts, business education, and other vocational and language arts classes; and that program attendance rates were higher than attendance rates for the schools as a whole. Recommendations for program improvement are presented. (MJL)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED223759

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
T. K. Minter
NYC Bd. of Ed.
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
This document has been reproduced as received from the person or organization originating it.
Minor changes have been made to improve reproduction quality.
• Points of view or opinions stated in this document do not necessarily represent official NIE position or policy

FINAL EVALUATION REPORT

E.S.E.A. TITLE VII

Grant Number: G008006609

Project Number: 5001-56-17631

SEWARD PARK HIGH SCHOOL

WASHINGTON IRVING HIGH SCHOOL

CHINESE BILINGUAL EDUCATION PROGRAM

1980-81

Principals: Dr. Noel N. Kriftcher
Seward Park High School

Dr. Gerard N. Oak
Washington Irving High School

Coordinator: Ms. Katherine Sid

Prepared by the
BILINGUAL EDUCATION EVALUATION UNIT

Ruddie A. Irizarry, Manager
Judith A. Torres, Evaluation Specialist
John Young, Consultant
R. Frank Eadie, Consultant

NEW YORK CITY PUBLIC SCHOOLS
OFFICE OF EDUCATIONAL EVALUATION
RICHARD GUTTENBERG, ADMINISTRATOR

UD 022 608

ACKNOWLEDGEMENTS

The production of this report, as of all Bilingual Education Evaluation Unit reports, is the result of a cooperative effort of permanent staff and consultants. Rima Shore and Armando Cotayo have labored over and edited initial drafts, ensuring that they conformed to O.E.E. standards of scope and style. Dennis Joyce has spent many hours creating, correcting, and maintaining data files. Franco Marinai has patiently reviewed, edited, analyzed, and reported project data. Margaret Scorza has managed the production process, frequently editing and reformatting drafts and assuring that the reports are complete and accurate. Joseph Rivera has spent many hours producing, correcting, duplicating, and disseminating reports. Without their able and faithful participation the unit could not have handled such a large volume of work and still produced quality evaluation reports.

TABLE OF CONTENTS

		PAGE
I.	Demographic Context	1
II.	Student Characteristics	3
	Target Population	3
	Diversity	3
	Entry Criteria	7
III.	Program Description	9
	Philosophy	9
	Program Goals and Objectives	9
	Objectives and Evaluation	10
	Organization	12
IV.	Instructional Component	13
	Overview	13
	Student Placement	15
	Courses Offered at Seward Park High School	15
	Courses Offered at Washington Irving High School	20
	Transition	21
	Funding of Instructional Component	21
V.	Non-Instructional Component	22
	Overview	22
	Curriculum Development	23
	Supportive Services	24
	Staff Development	25
	Staff Characteristics	27
	Parent and Community Involvement	27
	Affective Domain	29
VI.	Findings	31
VII.	Conclusions and Recommendations	63

LIST OF CHARTS AND TABLES

		PAGE
Chart 1.	Student entry procedure: assessment and placement.	8
Chart 2.	Administrative organization of the Chinese Bilingual Education Program at Seward Park High School.	14
Table 1.	Number and percentage of students by country of birth and school.	4
Table 2.	Number of students by age and grade.	5
Table 3.	Number and percentages of students by sex and grade.	6
Table 4.	Instruction in English as a second language at Seward Park High School.	16
Table 5.	Instruction in native language arts at Seward Park High School.	17
Table 6.	Bilingual courses in the content-areas at Seward Park High School.	18
Table 7.	Funding of the instructional component.	22
Table 8.	The non-instructional component.	23
Table 9.	Staff characteristics: professional and paraprofessional staffs.	28
Table 10.	Results of the Criterion Referenced English Syntax Test (Seward Park High School, fall).	34
Table 11.	Performance of students tested on the Criterion Referenced English Syntax Test (Seward Park High School, fall).	35
Table 12.	Results of the Criterion Referenced English Syntax Test (Seward Park High School, spring).	36
Table 13.	Performance of students tested on the Criterion Referenced English Syntax Test (Seward Park High School, spring).	37

PAGE

Table 14. Results of the Criterion Referenced English Syntax Test (Washington Irving High School, fall). 38

Table 15. Performance of students tested on the Criterion Referenced English Syntax Test (Washington Irving High School, fall). 39

Table 16. Results of the Criterion Referenced English Syntax Test (Washington Irving High School, spring). 40

Table 17. Performance of students tested on the Criterion Referenced English Syntax Test (Washington Irving High School, spring). 41

Table 18. Number and percent of Chinese-speaking students passing teacher-made examinations in mathematics at Seward Park High School. 43

Table 19. Number and percent of Vietnamese-speaking students passing teacher-made examinations in mathematics at Seward Park High School. 43

Table 20. Number and percent of students passing teacher-made examinations in mathematics at Washington Irving High School. 44

Table 21. Number and percent of Chinese-speaking students passing teacher-made examinations in science at Seward Park High School. 46

Table 22. Number and percent of Vietnamese-speaking students passing teacher-made examinations in science at Seward Park High School. 46

Table 23. Number of students attending courses and percent passing teacher-made examinations in science at Washington Irving High School. 47

Table 24. Number and percent of Chinese-speaking students passing teacher-made examinations in social studies at Seward Park High School. 49

Table 25. Number and percent of Vietnamese-speaking students passing teacher-made examinations in social studies at Seward Park High School. 49

Table 26. Number of students attending courses and percent passing teacher-made examinations in social studies at Washington Irving High School. 50

PAGE

Table 27. Number and percent of Chinese-speaking students passing teacher-made examinations in native language arts at Seward Park High School. 52

Table 28. Number and percent of Vietnamese-speaking students passing teacher-made examinations in native language arts at Seward Park High School. 52

Table 29. Number and percent of students passing teacher-made examinations in native language arts at Washington Irving High School. 53

Table 30. Number of students attending courses and percent passing teacher-made examinations in business education at Seward Park High School. 55

Table 31. Number of business education course enrollments and percent in which students passed teacher-made examinations at Washington Irving High School. 56

Table 32. Number of miscellaneous course enrollments and percent in which students passed teacher-made examinations at Seward Park High School. 58

Table 33. Number of miscellaneous course enrollments and percent in which students passed teacher-made examinations at Washington Irving High School. 59

Table 34. Significance of the difference between attendance percentages of program students and the attendance percentage of Seward Park High School by grade. 61

Table 35. Significance of the difference between attendance percentages of program students and the attendance percentage of Seward Park High School by native language. 61

Table 36. Significance of the difference between attendance percentages of program students and the attendance percentage of Washington Irving High School by grade. 62

CHINESE BILINGUAL EDUCATION PROGRAM

Location:	Washington Irving High School 40 Irving Place New York, New York Seward Park High School 350 Grand Street New York, New York
Year of Operation:	1980-1981, first of a three year cycle
Target Language:	Chinese
Number of Participants:	500 students in grades 9 to 11
Acting Program Coordinator:	Ms. Katherine Sid

I. DEMOGRAPHIC CONTEXT

The Secondary School Chinese Bilingual Education Program operates at two sites, Seward Park High School and Washington Irving High School. Seward Park High School is located in the Lower East Side section of Manhattan, a ten-minute walking distance from the heart of Chinatown. Most of the 3,250 high school students in downtown Manhattan, the area south of 14th Street, attend Seward Park High School. Washington Irving High School is located immediately north of 14th Street. It is unique in being one of two all-girl high schools in New York City and the only one in Manhattan. Thus, it draws its students not only from its immediate vicinity, but from all the boroughs. These two sites have been selected because of their proximity to Chinatown, their high ratio of students of Chinese origin with limited English proficiency (LEP), and their easy accessibility by bus and subway from other areas where most of the recent Chinese immigrants and refugees reside.

The area around Seward Park High School is, in general, a low-income area with tenement housing, stores, and small businesses. Ethnically, the residents of the Lower East Side are Asian, Italian, Hispanic, and Jewish. In recent years "Chinatown" has been expanding into areas which previously consisted principally of Italian and Jewish families. Thus the ethnic composition of the area is changing.

The area around Washington Irving High School is residential and more affluent than the Lower East Side. It is also ethnically mixed with Ukrainians, Hispanics, blacks, and many others.

II. STUDENT CHARACTERISTICS

TARGET POPULATION

The Chinese Bilingual Education Program is designed to offer instructional and supportive services to high school LEP students whose native language is Chinese.

The target population at Seward Park High School in 1980-81 was originally 500. Because of the reduced budget, the target population decreased to 400, ranging from grades 9 to 11. The target population at Washington Irving High School was 100, also ranging from grades 9 to 11.

The overall enrollment at Seward Park High School was 3,416 in April, 1981. About 30 percent were Chinese, 90 percent of whom were identified as limited English proficient. This means that 900 Chinese students were not able to function fully in English, yet only 400 of these were served by the program because of budget limitations. However, the remaining 500 attend classes in English as a second language (E.S.L.). They may also attend one of the fifteen Chinese classes available.

DIVERSITY

The target population is characterized by marked diversity. Program students, all of whom are Chinese, represent a wide range of educational background, national origin, socioeconomic status, and general experience. The majority are Cantonese speaking, but there are some who speak Toisanese, Swatowese, and Mandarin.

The following table illustrates the number and percentage of students in the program according to their country of origin:

Table 1. Number and percentage of students by country of birth and school.

COUNTRY OF BIRTH	SEWARD PARK N	SEWARD PARK PERCENT	WASHINGTON IRVING N	WASHINGTON IRVING PERCENT
People's Republic of China	284	63%	21	37%
Hong Kong	82	18%	14	25%
Vietnam	67	14%	17	29%
Taiwan	2		2	3%
Cambodia	2		2	3%
Laos	1			
Korea	1			
Other Asian country	20	4%	2	3%
Total	459	99%	58	100%

The figures given above show that most of the students in the program came from China, Hong Kong, and Vietnam. However, immigrants from Hong Kong are no longer in the majority as in previous years. Many students have experienced political upheaval and war. Some have been separated from their loved ones. Many have suffered interrupted schooling, or, because of lack of educational opportunites in their countries of origin, have received fewer years of education than their grade level would indicate. Bilingual program students are reported by age and grade in Table 2.

Table 2. Number of students by age and grade. *

AGE	GRADE 9	GRADE 10	GRADE 11	GRADE 12	TOTAL
15		3			3
16	5	30	1		36
17	4	74	2		80
18	13	101	6	2	122
19	10	119	5	6	140
20	1	59	9	5	74
21	1	35	5	3	44
22		9		1	10
TOTAL	34	430	28	17	509
PERCENT OF OVERAGE STUDENTS	100%	92%	89%	88%	93%

* Shaded boxes indicate the expected age range for each grade.

- 93 percent of the program students are overage for their grade.
- The highest percentage of overage students occurs in the ninth grade.

Because there may be selective personal and environmental pressure on students in urban communities, the composition of the student body may vary from school to school and grade to grade within a school. Table 3 presents the distribution in each school of bilingual program students by grade and sex.

Table 3. Number and percentages of students by sex and grade.

SEWARD PARK HIGH SCHOOL

GRADE	MALE N	PERCENT OF GRADE	FEMALE N	PERCENT OF GRADE	TOTAL N	PERCENT OF ALL STUDENTS
9	6	46%	7	54%	13	2%
10	217	54%	186	46%	403	88%
11	10	48%	11	52%	21	5%
12	15	71%	6	29%	21	5%
TOTAL	248	54%	210	46%	458	100%

WASHINGTON IRVING HIGH SCHOOL

GRADE	MALE N	FEMALE N	PERCENT OF ALL STUDENTS
9		21	36%
10		30	52%
11		7	12%
12			
TOTAL		58	100%

- In Seward Park High School, the percentage of male students (54 percent) is higher than the percentage of female students (46 percent).
- In both schools, the highest percentage of program students occurs in the tenth grade.

In general, program students have more difficulty in adjusting to their new surroundings and culture. Moreover, many students have far less contact with English than those from Hong Kong and Taiwan. Thus, they

face an uphill task in mastering English and in studying subjects taught in English.

Because of their diverse backgrounds, the students differ very much in their proficiency in content areas. Some students from mainland China experience great difficulty in the academic and attitudinal areas. American history, economics, world history, and biology were reported to be the most frustrating and confusing to them.

ENTRY CRITERIA

Participating students were selected on the basis of limited proficiency in English as determined by a score below the twenty-first percentile on the New York City Language Assessment Battery (LAB) and their inability to cope with content-area studies (science, mathematics, social studies) in classes taught exclusively in English.

The selection process typically included the following:

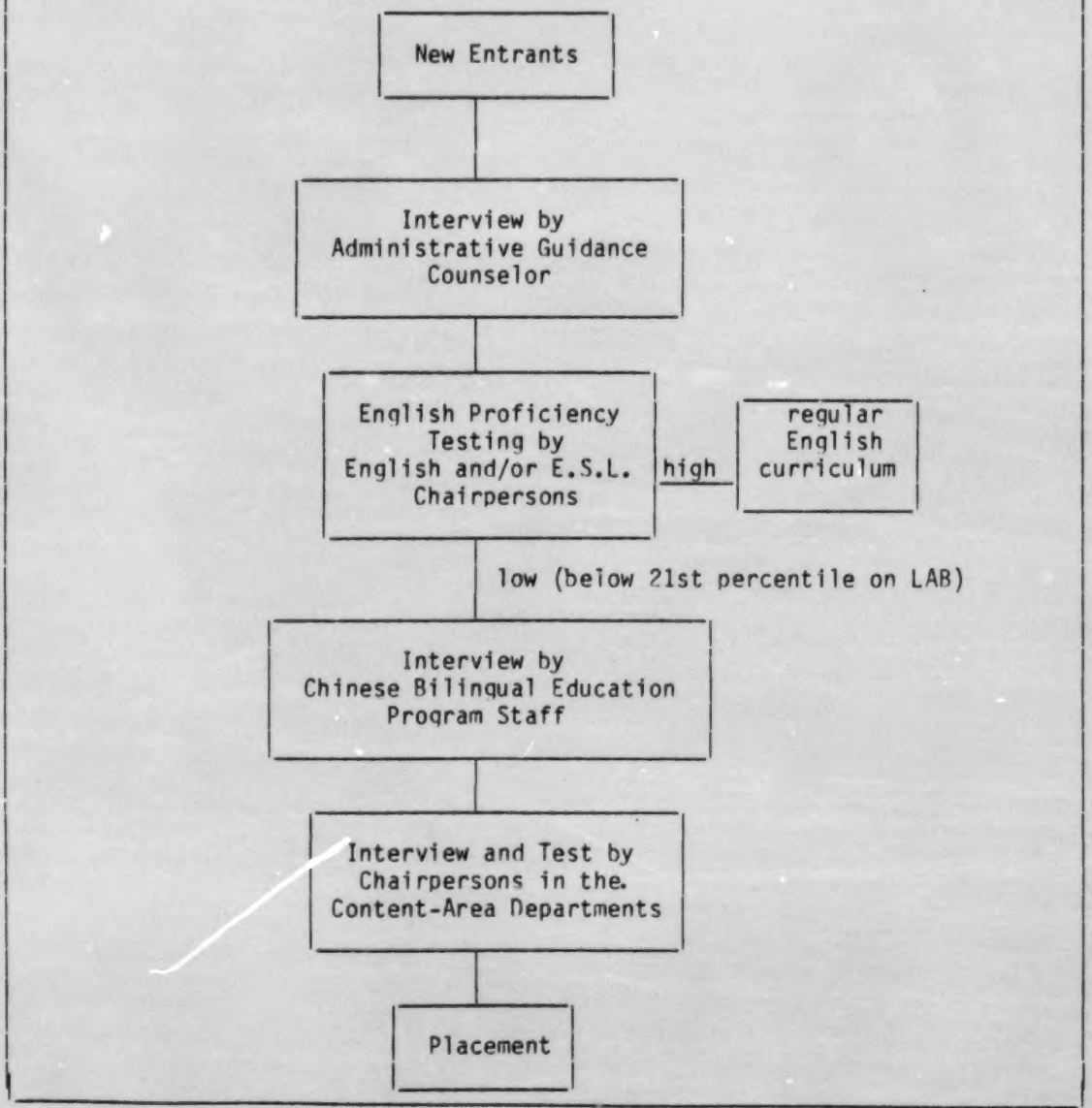
1. interview by a guidance counselor and admission officer;
2. testing and evaluation for English placement by the E.S.L. chairperson or the English chairperson. This evaluation includes department-developed oral and written tests, as well as the LAB;
3. evaluation by the Chinese bilingual department of Chinese students who are not prepared for mainstream classes. The program director and/or bilingual guidance counselor make recommendations based on the interview, which is conducted in the student's native dialect, on test results, and assessment of previous educational records;
4. testing for level of proficiency in Chinese by the chairperson of the foreign language department;

5. placement interviews and tests administered by the chairpersons of the content-area departments.

Final placement is coordinated by the Chinese bilingual department and implemented by the school's program office.

The following flowchart illustrates this procedure.

Chart 1. Student entry procedure: assessment and placement.


New Entrants
Interview by Administrative Guidance Counselor
English Proficiency Testing by English and/or E.S.L. Chairpersons
high
regular English curriculum
low (below 21st percentile on LAB)
Interview by Chinese Bilingual Education Program Staff
Interview and Test by Chairpersons in the Content-Area Departments
Placement

III. PROGRAM DESCRIPTION

PHILOSOPHY

The evaluator, accompanied by a Cantonese-speaking scientist, spoke with the acting program coordinator, guidance counselor, teachers, and paraprofessionals, as well as the principals and assistant principals of the two schools. There was general consensus that bilingual education is crucial for the target population of the program. Most of the students in the program have little or no familiarity with American culture and the English language; some did not even know the alphabet. Without bilingual instruction and support services, they would be completely at a loss in the classroom, lagging irretrievably behind in their studies and losing years in their education. Program staff note that most entering students lack confidence and are unfamiliar with the American approach to discipline; their experience has left them little peace of mind, and they often have little tolerance for frustration. Therefore, more individualized attention was given within the context of the program.

Both program staff and school administrators view the program as transitional and support the use of English in every classroom. All instruction in the program is offered in English. Some classes have paraprofessionals, who interpret and translate key concepts and terms. In general, the program aims at equipping students to join the appropriate mainstream classes with confidence.

PROGRAM GOALS AND OBJECTIVES

In addition to English language development and academic studies the program also aims at equipping students with vocational skills. At

Seward Park High School, there are courses such as accounting and typing. At Washington Irving High School, offerings are of a wider range: vocational courses, such as clothing, home economics, typing, and business machine practice.

OBJECTIVES AND EVALUATION

The Chinese Bilingual Education Program has the following overall objectives:

1. At the conclusion of each year of the project period, students of limited English proficiency will demonstrate increased mastery of English as measured by the Criterion Referenced English Syntax Test (CREST). It is anticipated that program students will master one instructional objective per month. The number of instructional objectives mastered per month will be calculated and compared to the criterion level.

2. Seventy-five percent of the students in the program will demonstrate gains in their knowledge of Chinese by advancing one level in Chinese language arts for each semester of instruction as measured by project-developed instruments. All entering students are placed in the appropriate level according to their achievements in the entry level examination. They will be post-tested on the appropriate levels by teacher-designed instruments assessing reading comprehension and character acquisition. After one school year, the number and percentage of students advancing two levels will be calculated and compared to the criterion level.

3. The percentage of students in the program who pass teacher-made examinations in career subjects will be at least equal to that of mainstream students. After one semester of exposure to a career subject, 75 percent of the class will be motivated to apply for admittance to the next level of the subject. Uniform department tests, translated into Chinese, will be administered at the end of each semester. The percentage of students achieving a passing grade (65 percent) will be calculated and compared to that of mainstream students. Student records will be reviewed to determine the number and percentage of students electing a second level in the subject. The percentage will then be compared to the program objective.

4. The percentage of students in the program who pass the uniform, teacher-made final examinations in substantive subjects will be at least equal to that of mainstream students. Uniform department tests, translated into Chinese, will be administered at the end of each semester. The percentage of students achieving a passing grade (65 percent) will be calculated and compared to that of mainstream students. The percentage will then be compared to the program objective.

5. The number of trained Chinese bilingual staff available for the development of needed educational programs will be increased. For each sponsored course taken in a college or university, the participant will be required to show proof of a passing grade. For each sponsored workshop, seminar, or conference attended the participant will be required to submit either a written or an oral report to the project staff on materials and content acquired.

6. More parents of program students will attend activities and functions designed to inform them of their children's status and progress; to increase their awareness of their children's problems, the facilities available to them in the school and the community, and potential options open to graduating students in employment and higher education. Comparative attendance statistics will be compiled.

ORGANIZATION

History

The Chinese Bilingual Education Program has been funded for three years under Title VII. 1980-81 is the first year of the funding cycle.

This is the first time Washington Irving High School has a Chinese bilingual program. However, Seward Park High School has had five years of experience in this area. From 1975 to 1980, the school had a Chinese bilingual-bicultural program, the first Chinese high school bilingual program to be federally funded in the country. Most of the present staff have worked in the previous program, which has provided experience, continuity, and stability.

Structure

In Seward Park High School there is close coordination between the Chinese bilingual program and other content-area departments of the school. The principal, assistant principal, and the chairperson of the social studies department were found to be very supportive of the program. The principal particularly endorsed the program's stress on transition

to mainstream, and the use of Chinese and English in its classes. There is an effective working relationship among departments, and between the program and tax-levy teachers who work with program students. In general the program is well organized. Chart 2 presents the administrative organization of the program at Seward Park High School.

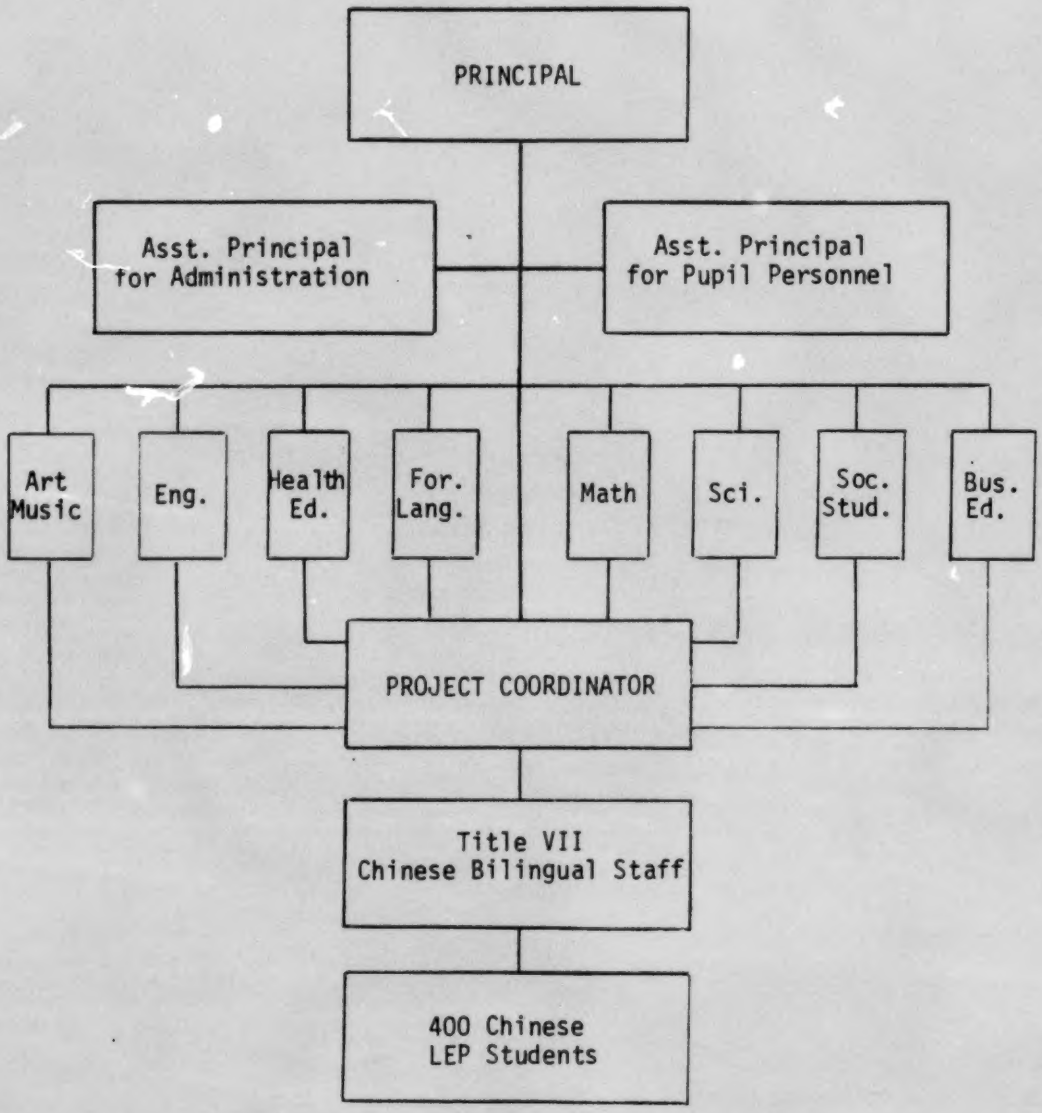
IV. INSTRUCTIONAL COMPONENT

OVERVIEW

The Chinese Bilingual Education Program was designed to provide LEP Chinese students with: intensive instruction in E.S.L.; instruction in the native language; classes in content areas; vocational training; and reinforcement of cultural identity. Numerous bilingual classes are offered. Where bilingual instruction is not available, program staff, including paraprofessionals, translate and interpret to help students to achieve in academic areas and adjust to the educational system. Program students also receive instruction in some subject areas with the mainstream population of the school. Through these classes, and through participation in lunchroom and assembly programs, the participants are integrated into the school population as a whole.

Because of the large number of mutually unintelligible dialects spoken by students, it is impossible to serve everyone of them by teaching in that particular dialect. Since Cantonese is spoken by the majority, it is used when paraprofessionals interpret. Mandarin is used occasionally, depending on whether the bilingual teacher or paraprofessional is fluent

CHART 2. Administrative organization of the Chinese Bilingual Program at Seward Park High School.



in it or not. Mandarin is used exclusively in Chinese language classes. Although this language usage is not ideal given the language varieties of program students, it is the only feasible arrangement at present due to budget limitations and class size.

STUDENT PLACEMENT

Once students were identified as eligible for program participation and selected for entry, they were individually programmed. The Chinese Bilingual Program conducted oral interviews in the students' native dialects; the acting director and bilingual guidance counselor then assessed results and previous educational records (if available). The chairpersons of the social studies, mathematics, science, and foreign language departments also conducted placement interviews and testing, and had input into the programming process. Finally, the Chinese Bilingual Program coordinated the placement and programming for each student; its recommendations were implemented by the school's program office.

COURSES OFFERED AT SEWARD PARK HIGH SCHOOL

At Seward Park High School each student's program consisted of: intensive instructon in E.S.L. and/or transitional English, the content areas of math, science, and social studies; and mainstream courses, including physical education, art, and electives.

English as a second language is offered at five levels. Each level consists of a forty-minute class per day. There are six teachers funded by Title I and three paraprofessionals. In addition, there are four courses in reading. Again, each course consists of a forty-minute period per day. (See Table 4.)

Table 4. Instruction in English as a second language at Seward Park High School.

COURSE TITLE AND LEVEL	NUMBER OF CLASSES	AVERAGE CLASS REGISTER
E.S.L. 1	3	27
E.S.L. 2	9	22
E.S.L. 3	5	28
E.S.L. 4	6	30
E.S.L. 5	5	30
R.C.A.*1	4	42
R.C.A. 2	6	28
R.C.A. 3	4	32
R.C.A. 4	5	31

*An additional English period given to students of E.S.L. This course emphasizes pronunciation, phonics, and intonation.

Texts and/or Materials Used for E.S.L. and R.C.A.

E.S.L. 1 - Lado 1 text and workbook, English in Action
E.S.L. 2 - Lado 2 text and workbook, English for Fun
E.S.L. 3 - Lado 3 text and workbook, English for Fun, Organizing Information
E.S.L. 4 - Lado 4 text and workbook, English for Fun, Organizing Information, American Folktales
E.S.L. 5 - Lado 5 text and workbook, Organizing Information, Elementary Composition Practice, Writing Power

R.C.A. 1 - Modern American English 1
R.C.A. 2 - Modern American English 2, International Folktales I
R.C.A. 3 - Modern American English 3, International Folktales II
R.C.A. 4 - Modern American English 4

All program students, were individually placed into tax-levy classes in the Chinese language on the basis of their scores on a teacher-made test. A three-year sequence of classes, Chinese levels 1 to 6 was offered by the foreign language department. The courses are conducted in Mandarin and offered daily five class periods per week. (See Table 5.)

Table 5. Instruction in native language arts at Seward Park High School.

COURSE TITLE AND LEVEL	NUMBER OF CLASSES	AVERAGE CLASS REGISTER
Chinese 1/2	1	30
Chinese 3	2	28
Chinese 4	4	40
Chinese 5	3	43
Chinese 6	5	35

Textbooks for Chinese Courses

Chinese 1 - Conversational Chinese
Chinese 2 - Speaking Mandarin
Chinese 3 - Read Chinese, Read About Chinese Book 2
Chinese 4 - Read Chinese, Read About Chinese Book 3
Chinese 5 - Sketch of Chinese History
Chinese 6 - Sketch of Chinese History

Table 6 illustrates the content-area courses taught bilingually or in English only, the number of classes, and the average class registers.

Table 6. Bilingual courses in the content areas at Seward Park High School.

SUBJECT AREA	COURSE TITLE	NUMBER OF CLASSES FALL	SPRING	AVERAGE REGISTER FALL	SPRING	LANGUAGE OF INSTRUCTION
Mathematics	9M17CH	4	2	31	43	
	9M27CH	2	4	45	31	Bilingual
	10M17CH	2	2	41	41	
	10M27CH	1	2	38	31	
Science	GS17CH	3	3	37	38	Bilingual
	GS27CH	3	4	40	38	Bilingual
	BIOA7CH	5	4	37	33	English
	BIOB7CH	2	4	39	34	English
	BIOC7CH	1	2	36	33	English
Social Studies	WH17CH	4	3	39	31	Bilingual
	WH27CH	2	3	35	32	English
	AH17CH	2	2	38	28	English
	AH27CH	0	2	0	27	English
	ECO17CH	1	2	37	35	English
Vocational	ACCT17CH	2	2	32	31	Bilingual and
	ACCT27CH	0	2	0	29	English

Each class met five times a week for a total of 200 minutes. Except in mathematics, all courses are taught by English-dominant teachers. In some of the courses, the teacher is assisted by a paraprofessional, who interprets key words and concepts and translates them on the board.

The evaluator observed a mathematics class taught by a Chinese teacher. The teacher is Mandarin-speaking, but can communicate in Cantonese. She teaches in English and explains frequently in Chinese. When using Chinese she uses Cantonese most of the time. The students invariably use Chinese in speaking to her, unless they are asked specifically for answers in English.

Three classes in which paraprofessionals assisted English-dominant teachers were observed -- world history, accounting, and general science. In all three, the paraprofessionals interpreted and translated. It was done more extensively in the science class, where the teacher and paraprofessional had worked out an efficient system. The evaluator was particularly impressed by the fact that the monolingual teacher had learned some Cantonese phrases, such as "speak more loudly," "solid matter," and "liquid matter," and used them frequently. This is very commendable, as it not only allowed direct communication between teacher and students in the students' language, but also showed respect for Cantonese.

Two classes taught by English-speaking teachers without the aid of paraprofessionals were also observed. In the American history class, the students have already studied English for some time, so they were able to respond to the teacher in English. In the biology class, most of the students were having difficulties in understanding the lesson, in spite of very good teaching. The teacher spoke very slowly, but the technical terms remained unintelligible for many students.

In his interview with students, the evaluator was told that biology was one of the chief hurdles for them. They also expressed a need for bilingual teachers, whom they felt would be more effective than paraprofessionals translating and interpreting for them. The acting director of the program informed the evaluator that the main obstacle to

having more bilingual teachers was the lack of certified bilingual teachers in the content areas presently available. Lack of funds prevented the hiring of more paraprofessionals.

COURSES OFFERED AT WASHINGTON IRVING HIGH SCHOOL

At Washington Irving High School, five levels of English as a second language are offered as well as a class of transitional E.S.L. Bilingual classes are offered in the areas of health science, home economics (food service), business machine practice, clothing, typing I and II, American government and remedial math. Instruction is provided by monolingual teachers with assistance from bilingual paraprofessionals.

The evaluator observed the following classes: English as a second language, American government, clothing, health science, and home economics. All except American government generally have paraprofessionals to interpret and translate, as in Seward Park High School. One difference is that one paraprofessional is fluent in both Cantonese and Mandarin, and thus interprets in both languages, though more frequently in the former (80 percent of the program students speak Cantonese).

The health science class was very impressive. The class observed was on contraception; students appeared to be comfortable with the subject matter. In fact, the students were enthusiastic about the course, which was taught by a Chinese-American teacher who spoke Toisanese. The class presentation was able to bridge the two cultures and introduce American health practices to the students.

TRANSITION

In general, transition to the mainstream was emphasized in the instructional program. Teachers and students alike view the program as a means of giving students the skills and the confidence to enter mainstream classes. Content-area classes were taught in English or bilingually as described above. The transition process was gradual and partial; as students entered the mainstream they continued to take some classes and receive guidance counseling from the program.

Since grade 12 students are no longer part of the program at Washington Irving High School because of budget cuts, many students who had been in the Chinese Bilingual-Bicultural Program in 1979-80 entered the mainstream.

The students interviewed by the evaluator all considered the program necessary and helpful to them.

FUNDING OF INSTRUCTIONAL COMPONENT

The funding sources of the program's instructional component are listed in the following table:

Table 7. Funding of instructional component.

	FUNDING SOURCE(S)	NUMBER OF PERSONNEL: TEACHERS	PARAS
E.S.L.	Title I	6	3
R.C.A. Reading (English)	Title I P.S.E.N.	4	0
Native Language	Tax Levy	3	0
Mathematics	Tax Levy	2.2	1 (Title VII)
Social Studies	Tax Levy	3.5	1 (Title VII)
Science	Tax Levy	4	1 (Title VII)
Other(Voc. Ed. etc.)	Tax Levy	2	.5 (Title VII)

V. THE NON-INSTRUCTIONAL COMPONENT

OVERVIEW

Non-instructional services included curriculum and materials development, personal and academic guidance, staff training and professional development, and parental and community involvement. Additionally, the program offered administrative and coordinating services. Table 8 lists the program staff, supported by Title VII, who provided these services.

Table 8. The non-instructional component.

FUNCTION	STAFF MEMBERS
Administration & Supervision	1 Program Director (Acting) 1 Assistant to the Director
Curriculum Development	1 Curriculum Specialist
Supportive Services	1 Guidance Counselor 2 Family Workers
Staff Development	1 E.S.L. Specialist Part Time Consultants
Parental & Community Involvement	1 Parent/Community Resource Person Specialist*

*Fall term only; position vacant presently.

CURRICULUM DEVELOPMENT

The need for Chinese/English bilingual and multicultural texts has been increasing, since entering students have recently arrived with minimal preparation in English, and with educational experiences disrupted by political upheaval and economic difficulty. Translations from English monocultural texts were prepared by the curriculum specialist and paraprofessionals. The program has been using such materials developed in the past five years by the Chinese Bilingual-Bicultural Program. These include:

1. World history I & II textbooks developed in English and Chinese.
2. Ninth-grade algebra and tenth-grade geometry curricula developed in English and Chinese.
3. Biology I & II curricula developed in English and Chinese.
4. Comprehensive science glossary developed in English and Chinese.

5. Health education glossary developed in English and Chinese.

6. A three-year comprehensive Chinese language arts curriculum developed in Chinese in conjunction with the State Department of Education.

7. A comprehensive guide to school rules and regulations, services, credit requirements for graduation, etc., developed in Chinese.

8. A career guidance monograph developed in Chinese.

A biology textbook is presently being developed. However, the project director reports that there is still a need for materials of varied levels in the areas of general science, math, and social studies.

SUPPORTIVE SERVICES

Supportive services at Seward Park High School were provided primarily by the bilingual guidance counselor and the two family workers, and to some degree by paraprofessionals. They worked with students to resolve academic problems, to plan for the future, and to deal with difficulties which might arise in adjusting to the new and radically different environment in which the recent immigrants found themselves. They also attempted to help students with problems stemming from their families' strained economic circumstances.

The guidance counselor met with each student at least three times during the year and maintained files charting each student's adjustment and progress. He and the family workers also conducted occasional home visits to consult with parents as necessary and assembled small groups

of students who required additional assistance. The guidance counselor noted that the influx of Chinese and other Asian immigrants had created a demand for supportive services which exceeds the capacity of the present program. He indicated that he needed more assistance in furnishing the services, since he has to be a grade advisor in addition to being the guidance counselor to 450 students with the attendant paper work.

The health science teacher at Washington Irving High School pointed out the urgent need for bilingual psychiatrists and counselors. At Washington Irving High School, the counselors are not Chinese bilingual. They are more attuned to blacks and Hispanics, and the Chinese students have yet to establish a rapport with the counselors.

STAFF DEVELOPMENT

Staff development consisted of in-service training, including university courses. Career, staff development, and cultural workshops were held in both schools. Semi-monthly meetings of program staff dealt with issues of planning and coordination with other programs.

During 1980-81 program staff members received the following training at institutions of higher education:

Staff Member	Training	Institution
Curriculum specialist	Systems Analysis, Advanced Systems, COBOL Programming	New York University
Paraprofessional	Reading Instruction in Elementary Schools	Hunter College
Paraprofessional	Introduction to American Government, Introduction to Psychology, Third World Fiction, Ethics and Life Science	Touro College
Assistant Director	Social, Historical, Philosophical Foundations of Secondary Education	Hunter College

During 1980-81, the program staff attended several conferences and professional meetings, including the Second East Coast Asian-American Education Conference, the Tenth Annual Conference of the National Association of Bilingual Educators, and the Third Chinese Parents' Conference.

Intensive "crash-type" workshops in the Cantonese and Mandarin languages and Chinese culture were offered at the beginning of the school year. These workshops were intended for monolingual teachers in order to familiarize them with features of the Chinese languages and culture which would be useful in their teaching and interaction with Chinese students and parents. The workshops were held at Seward Park; approximately 30 monolingual teachers attended each of the two sessions. Teachers have requested more of these workshops, which is an indication of their usefulness.

STAFF CHARACTERISTICS

Most of the staff have worked for the Chinese Bilingual-Bicultural Program and thus have previous experience in bilingual education. The staff represents a broad range of interests and abilities (see Table 9). In terms of linguistic ability they command the following languages and dialects: Chinese (Cantonese, Mandarin, Toyshanese, Shanghainese, Fukinese) and Tagalog. The curriculum specialist acquired expertise in mathematics and computer science. The paraprofessionals specialized in mathematics, social studies, and science, and were exceptionally well qualified. One of the science paraprofessionals, for example, had taught science at the secondary level in Hong Kong for 28 years.

PARENT AND COMMUNITY INVOLVEMENT

The program director and staff encouraged parental participation and involvement. Parents were generally responsive; they held meetings on Sundays, either at the school or at the Chinese Consolidated Benevolent Association in Chinatown. The group discussed such topics as: school regulations; the rights of students and parents; school reports and records. Additionally, approximately 50 parents attended each of two workshops per term on bilingual education offered by the director.

The program had an advisory committee consisting of 12 volunteers; parents and staff. The committee held monthly meetings attended by approximately 10 members each session.

Table 9. Staff characteristics: professional and paraprofessional staffs.

STAFF MEMBER TITLE	PERCENT OF TIME SPENT IN EACH FUNCTION	EDUCATION (DEGREES)	CERTIFI-CATION	LICENSE(S) HELD	YEARS OF EXPERIENCE (MONOLINGUAL)	YEARS OF EXPERIENCE (BILINGUAL)	YEARS OF EXPERIENCE (E.S.L.)
Program Director	100	B.A. English	N.Y.C.	E.S.L.	14	6	3
Assistant to the Director	100	B.A. - Language M.A. - Music	N.Y.C.	Bilingual-Music	10	1-1/2	0
Guidance Counselor	100						
Parents/Community Specialist (Acting Director)	100	B.A. - Elementary Education Ed. M. - Ed. Admin.	N.Y.C. N.Y.S.	Bilingual teacher in School Community and Common Branch	4	6	0
Curriculum Specialist	100	B.S. - Mathematics M.S. - Mathematics	N.Y.C. N.Y.S.	Regular Bilingual Mathematics	1	6	0
E.S.L. Specialist	100	M.S. - E.S.L.	N.Y.C. N.Y.S.	E.S.L.	-	-	7
2 Family Workers	100	B.A. - Chinese M.A. - Asian Studies B.A. - Education/Psych. M.A - Bilingual Education				7 3	
3 Paraprofessional	100	B.A. - Education B.S. - Education B.S. - Science				7 2 5	

The guidance counselor had communications with parents, particularly those whose children were experiencing difficulty in adjusting to the school's academic and social environment. Home visits were made on occasion. This contact proved crucial to the function of the program since Chinese parents adhere to a traditional attitude that once they go to school, students are in the hands of teachers. Unfamiliar with the American system, parents relied on the guidance counselor for information about their children's progress, as well as for information about counseling services and events in the school, and for explanations of placement procedures, report cards, and graduation requirements.

Program staff was reported to be particularly effective in securing parental involvement as a result of their frequent communications by telephone and mail requesting responses regarding their attendance. Additionally, the project director mentioned the fact that the staff spoke the language of the parents.

AFFECTIVE DOMAIN

In general, the students supported the program and participated eagerly in extracurricular activities. The Chinese Culture Club was of special importance particularly because it provided new students with counseling from their peers.

There is one aspect that may not be readily apparent, but is very important for the students' future development. Most of the students speak Cantonese. However, some of them feel inferior because they speak Cantonese; Mandarin is the official national language in China (both Taiwan and the People's Republic of China). As one of the purposes of bilingual education is to bolster

the students' self-esteem through recognition of their language and culture, the students' attitude toward their mother tongues ought to be of much importance to the program. Efforts such as Cantonese lessons for monolingual teachers are highly commendable, and the evaluator hopes that more could be done in this area.

VI. FINDINGS

ASSESSMENT PROCEDURES, INSTRUMENTS, AND FINDINGS

The following section presents the assessment instruments and procedures, and the results of the testing to evaluate student achievement in 1980-1981.

Students were assessed in English language development, growth in their mastery of their native language, mathematics, social studies, science and in various vocational and other course content areas. The following are the areas assessed and the instruments used:

English as a second language -- CREST (Criterion Referenced English Syntax Test, Levels I, II, III)

Mathematics performance -- Teacher-made tests

Science performance -- Teacher-made tests

Social studies performance -- Teacher-made tests

Native language arts performance -- Teacher-made tests

Business education performance -- Teacher-made tests

Performance in miscellaneous courses -- Teacher-made tests

Attendance -- School and program records

The following sections present the analyses performed and the outcomes for each.

English As A Second Language

In English language development the instrument used to measure growth was the Criterion Referenced English Syntax Test (CREST), which tests mastery of specific syntactic skills at three levels. Material at the beginning and intermediate levels of the CREST is broken down into twenty-five objectives per level, such as present-tense forms of the verb "to be" (Level I), or possessive adjectives and pronouns (Level II).

Material at the advanced level (Level III) is organized into fifteen objectives, such as reflexive pronouns. At each level, students are asked to complete four items for each objective. An item consists of a sentence frame for which the student must supply a word or phrase chosen from four possibilities. Mastery of a skill objective is determined by a student's ability to answer at least three out of four items correctly.

This report provides information on the average number of objectives mastered, and the average number of objectives mastered per month of treatment by students who received Title I E.S.L. instruction in fall and spring semesters at Seward Park High School (Tables 10 and 12), and at Washington Irving High School (Tables 14 and 16). Information is also provided on students' performance at the various test levels. Tables 11, 13, 15, and 17 contain grade and level breakdowns for students who were pre- and post-tested with the same test level.

As indicated in Tables 10 and 12, just under 60 percent of Seward Park program participants took the CREST pre- and post-test as Title I students in the fall, while just over 50 percent took both tests in the spring. At Washington Irving, better than two-thirds of participating students were pre- and post-tested in the fall, but just under 50 percent were so tested in the spring (see Tables 14 and 16).

Of those tested, students at both schools at all grade levels generally met or exceeded the project goal of one new objective per month of treatment in both the fall and spring semesters. Most groups, in fact, improved at a rate approximately one-and-one-half times the goal. Ninth graders at Washington Irving made especially large gains in both semesters (Tables 14 and 16), as did the tenth graders there in the spring.

In turning, now, to the more detailed presentations of Tables 11, 13, 15, and 17, we can see that, as might be expected, in general, the higher a student's grade, the higher the level of the test he/she was given. In addition, the higher the level taken, the smaller his/her gain was likely to be. The smaller gains are probably due in part, at least, to the higher initial scores by those taking Level II and III (Level III is comprised of only 15 objectives, so an initial score of 9, for example, indicates that 60 percent of the material is already mastered). Because nigh initial scores restrict the size of possible gains, they produce what is referred to as a "ceiling effect." Ceiling effects are especially evident for the eleventh graders at Washington Irving and adequately explain their lower gain scores. In addition, Level III objectives are apparently somewhat more difficult than are those of Levels I and II.

Students taking Level II at Washington Irving in the fall were also handicapped by a ceiling effect, but their artificially reduced gains were compensated for by the truly outstanding gains by those taking Level I (see Table 15). Tenth graders at Seward Park (Tables 11 and 13) also made excellent gains on Level I in both semesters.

Table 10. Results of the Criterion Referenced English Syntax (CREST): number of objectives mastered and objectives mastered per month.
(E.S.L. Title I Vietnamese-/Chinese-speaking students, Seward Park High School, fall)

GRADE	# OF STUDENTS	AVERAGE NUMBER OF OBJECTIVES MASTERED PRE	POST	OBJECTIVES MASTERED *	AVERAGE MONTHS OF TREATMENT	OBJECTIVES MASTERED PER MONTH
9	6	3.5	6.3	2.8	2.9	1.0
10	252	11.9	16.4	4.5	3.0	1.5
11	6	9.7	14.0	4.3	3.1	1.4
TOTALS	264	11.7	16.1	4.4	3.0	1.5

* Post-test minus pre-test.

Table 11. Performance of students tested on the Criterion Referenced English Syntax Test (CREST) average number of objectives mastered by grade and test level.

(E.S.L. Title I Vietnamese-/Chinese-speaking students, Seward Park High School, fall)

	LEVEL I AVERAGE NUMBER OF OBJECTIVES MASTERED				LEVEL II AVERAGE NUMBER OF OBJECTIVES MASTERED				LEVEL III AVERAGE NUMBER OF OBJECTIVES MASTERED			
GRADE	N	PRE	POST	GAIN*	N	PRE	POST	GAIN*	N	PRE	POST	GAIN*
9	5	3.0	5.8	2.8	1	6	9	3				
10	109	11.7	17.5	5.8	89	14.5	18.7	4.2	54	7.9	10.3	2.4
11					1	17	25	8	5	8.2	11.8	3.6
TOTALS	114	11.3	17.0	5.7	91	14.5	18.7	4.3	59	7.9	10.4	2.5

NOTE: number of objectives for each level: Level I (25), Level II (25), Level III (15).

* Post-test minus pre-test.

Table 12. Results of the Criterion Referenced English Syntax Test (CREST): number of objectives mastered and objectives mastered per month.

(E.S.L. Title I Vietnamese-/Chinese-speaking students, Seward Park High School, spring)

GRADE	# OF STUDENTS	AVERAGE NUMBER OF OBJECTIVES MASTERED PRE	POST	OBJECTIVES MASTERED *	AVERAGE MONTHS OF TREATMENT	OBJECTIVES MASTERED PER MONTH
9	10	12.7	16.4	3.7	2.9	1.3
10	228	12.7	16.7	4.0	3.0	1.3
11	1	9.0	11.0	2.0	3.1	0.6
TOTALS	239	12.7	16.7	4.0	3.0	1.3

* Post-test minus pre-test.

Table 13. Performance of students tested on the Criterion Referenced English Syntax Test (CREST): average number of objectives mastered by grade and test level.

(E.S.L. Title I Vietnamese-/Chinese-speaking students, Seward Park High School, spring)

	LEVEL I				LEVEL II				LEVEL III			
		AVERAGE NUMBER OF OBJECTIVES MASTERED				AVERAGE NUMBER OF OBJECTIVES MASTERED				AVERAGE NUMBER OF OBJECTIVES MASTERED		
GRADE	N	PRE	POST	GAIN*	N	PRE	POST	GAIN*	N	PRE	POST	GAIN*
9	7	9.3	14.0	4.7	3	20.7	22.0	1.3				
10	93	12.7	18.4	5.7	90	14.3	18.6	4.3	45	9.4	12.1	2.7
11									1	9.0	11.0	2.0
TOTALS	100	12.5	18.1	5.6	93	14.5	18.7	4.2	46	9.4	12.0	2.6

NOTE: number of objectives for each level: Level I (25), Level II (25), Level III (15).

* Post-test minus pre-test.

Table 14. Results of the Criterion Referenced English Syntax Test (CREST): number of objectives mastered and objectives mastered per month.

(E.S.L. Title I Vietnamese-/Chinese-speaking students, Washington Irving High School, fall)

GRADE	# OF STUDENTS	AVERAGE NUMBER OF OBJECTIVES MASTERED PRE	POST	OBJECTIVES MASTERED *	AVERAGE MONTHS OF TREATMENT	OBJECTIVES MASTERED PER MONTH
9	5	10.2	14.8	4.6	2.6	1.8
10	18	13.1	17.7	4.6	2.9	1.6
11	5	10.6	13.6	3.0	3.1	1.0
TOTALS	28	12.1	16.5	4.4	2.9	1.5

* Post-test minus pre-test.

Table 15. Performance of students tested on the Criterion Referenced Syntax Test (CREST): average number of objectives mastered by grade and test level.

(E.S.L. Title I Vietnamese-/Chinese-speaking students, Washington Irving High School, fall)

GRADE	LEVEL I				LEVEL II				LEVEL III			
	N	AVERAGE NUMBER OF OBJECTIVES MASTERED PRE	POST	GAIN*	N	AVERAGE NUMBER OF OBJECTIVES MASTERED PRE	POST	GAIN*	N	AVERAGE NUMBER OF OBJECTIVES MASTERED PRE	POST	GAIN*
9	4	7.2	12.2	5.0	1	22.0	25.0	3.0				
10	6	11.2	18.7	7.5	7	18.0	21.9	3.9	5	8.6	10.8	2.2
11									5	10.6	13.6	3.0
TOTALS	10	9.6	16.1	6.5	8	18.5	22.2	3.7	10	9.6	12.2	2.6

NOTE: number of objectives for each level: Level I (25), Level II (25), Level III (15).

* Post-test minus pre-test.

Table 16. Results of the Criterion Referenced English Syntax Test (CREST): number of objectives mastered and objectives mastered per month.

(E.S.L. Title I Vietnamese-/Chinese-speaking students, Washington Irving High School, spring)

GRADE	# OF STUDENTS	AVERAGE NUMBER OF OBJECTIVES MASTERED PRE	POST	OBJECTIVES MASTERED *	AVERAGE MONTHS OF TREATMENT	OBJECTIVES MASTERED PER MONTH
9	16	11.0	16.2	5.2	3.0	1.7
10	20	13.6	17.7	4.1	3.0	1.4
11	3	12.7	14.3	1.6	3.1	0.5
TOTALS	39	12.5	16.8	4.3	3.0	1.4

* Post-test minus pre-test.

Table 17. Performance of students tested on the Criterion Referenced Syntax Test (CREST): average number of objectives mastered by grade and test level.

(E.S.L. Title I Vietnamese-/Chinese-speaking students, Washington Irving High School, spring).

GRADE	LEVEL I				LEVEL II				LEVEL III			
	N	AVERAGE NUMBER OF OBJECTIVES MASTERED PRE	POST	GAIN*	N	AVERAGE NUMBER OF OBJECTIVES MASTERED PRE	POST	GAIN*	N	AVERAGE NUMBER OF OBJECTIVES MASTERED PRE	POST	GAIN*
9	14	10.9	16.4	5.5	1	16.0	21.0	5.0	1	7.0	9.0	2.0
10	2	21.0	23.5	2.5	10	14.3	20.4	6.1	8	11.0	13.0	2.0
11									3	12.7	14.3	1.6
TOTALS	16	12.2	17.2	5.0	11	14.4	20.4	6.0	12	11.1	13.0	1.9

NOTE: number of objectives for each level: Level I (25), Level II (25), Level III (15).

* Post-test minus pre-test.

Mathematics Performance

Data on the performance at Seward Park of Chinese-language students are reported in Table 18, while those for those students speaking Vietnamese are contained in Table 19. Data for all Washington Irving students appear in Table 20. These tables contain the numbers of students reported as taking the relevant courses, the number passing, and the percent passing, for fall and for spring courses separately. As a quick glance at these tables indicates, students in both schools in all grades did quite well with only one small group (ninth-grade Chinese students at Seward Park) in one term (the fall) having a passing rate of less than 70 percent. Vietnamese students at Seward Park generally did not do quite as well as their Chinese peers. On the other hand, students at Washington Irving had even higher rates of passing than the group at Seward Park. These rates (93 and 91 percent for the fall and spring, respectively) are very impressive.

When students in the different grades are compared, it is clear that the eleventh graders were consistently the most successful and ninth graders the least. Twelfth graders did almost as well as the eleventh-grade group.

Table 18. Number and percent of Chinese-speaking students passing teacher-made examinations in mathematics at Seward Park High School.

	FALL 1980			SPRING 1981		
GRADE	N	NUMBER PASSING	PERCENT PASSING	N	NUMBER PASSING	PERCENT PASSING
9	8	5	63	9	7	78
10	248	215	87	288	240	83
11	20	19	95	18	18	100
12	12	11	92	11	10	91
TOTAL	288	250	87	326	275	84

Table 19. Number and percent of Vietnamese-speaking students passing teacher-made examinations in mathematics at Seward Park High School.

	FALL 1980			SPRING 1981		
GRADE	N	NUMBER PASSING	PERCENT PASSING	N	NUMBER PASSING	PERCENT PASSING
10	30	22	73	37	26	70
12	4	4	100	4	4	100
TOTAL	34	26	76	41	30	73

Table 20. Number and percent of students passing teacher-made examinations in mathematics at Washington Irving High School.

	FALL 1980			SPRING 1981		
GRADE	N	NUMBER PASSING	PERCENT PASSING	N	NUMBER PASSING	PASSING PASSING
9	12	12	100	20	16	80
10	27	24	89	28	27	96
11	5	5	100	5	5	100
TOTAL	44	41	93	53	48	91

Science Performance

Rates of success of students in science courses are reported in Tables 21 through 23. A comparison of Tables 21 and 22 reveals that program participants at Seward Park did well or better in science as they did in mathematics, and that in the fall, at least, Vietnamese students performed as well as did the Chinese students. Although all groups exceeded a 70 percent passing rate, the ninth graders in the fall again had the lowest rate (75 percent) among the Chinese students. They did do better, however, than did Vietnamese tenth graders in the spring who had a 71 percent rate. In the spring, the tenth-grade groups at Seward Park had fairly large declines in their rates of success from the excellent fall levels. This was not true of other students, however.

Washington Irving reported data in science (and subsequent content areas) by individual course. Although the numbers of students are quite small, these data are presented by course and by grade in Table 23. Note that the overall pass rate in the fall is almost identical to those at Seward Park but that, in the spring, the small group at Washington Irving did much better (92 percent passing) than those at the other school.

Table 21. Number and percent of Chinese-speaking students passing teacher-made examinations in science at Seward Park High School.

	FALL 1980			SPRING 1981		
GRADE	N	NUMBER PASSING	PERCENT PASSING	N	NUMBER PASSING	PERCENT PASSING
9	8	6	75	10	8	80
10	256	220	86	326	254	78
11	19	18	95	12	12	100
12	13	13	100	9	9	100
TOTAL	296	257	87	357	283	79

Table 22. Number and percent of Vietnamese-speaking students passing teacher-made examinations in science at Seward Park High School.

	FALL 1980			SPRING 1981		
GRADE	N	NUMBER PASSING	PERCENT PASSING	N	NUMBER PASSING	PERCENT PASSING
10	32	27	84	41	29	71
12	4	4	100	2	2	100
TOTAL	36	31	86	43	31	72

Table 23. Number of students attending courses and percent passing teacher-made examinations in science at Washington Irving High School.

FALL COURSES	GRADE 9		GRADE 10		GRADE 11		TOTAL	
	N	PERCENT PASSING	N	PERCENT PASSING	N	PERCENT PASSING	N	PERCENT PASSING
General Science	1	100	1	100			2	100
Biology I, General			6	100	1	100	7	100
Chemistry			1	100	4	50	5	60
TOTAL	1	100	8	100	5	60	14	86

SPRING COURSES	GRADE 9		GRADE 10		GRADE 11		TOTAL	
	N	PERCENT PASSING	N	PERCENT PASSING	N	PERCENT PASSING	N	PERCENT PASSING
General Science	1	0					1	0
Biology I, General			7	100	1	100	8	100
Chemistry					4	100	4	100
TOTAL	1	0	7	100	5	100	13	92

Social Studies Performance

After examining the data of Tables 24 through 26, there is little to be said other than that all groups did extremely well in their social studies courses. In fact, no group of significant size failed to have at least 80 percent of its members pass the material. Given that these courses were taught in English, that is quite an achievement.

Table 24. Number and percent of Chinese-speaking students passing teacher-made examinations in social studies at Seward Park High School.

	FALL 1980			SPRING 1981		
GRADE	N	NUMBER PASSING	PERCENT PASSING	N	NUMBER PASSING	PERCENT PASSING
9	4	4	100	4	4	100
10	160	144	90	201	184	92
11	20	20	100	22	22	100
12	15	13	87	12	10	83
TOTAL	199	181	91	239	220	92

Table 25. Number and percent of Vietnamese-speaking students passing teacher-made examinations in social studies at Seward Park High School.

	FALL 1980			SPRING 1981		
GRADE	N	NUMBER PASSING	PERCENT PASSING	N	NUMBER PASSING	PERCENT PASSING
10	24	22	92	29	25	86
12	4	4	100	3	3	100
TOTAL	28	26	93	32	28	88

Table 26. Number of students attending courses and percent passing teacher-made examinations in social studies at Washington Irving High School.

FALL COURSES	GRADE 9		GRADE 10		GRADE 11		TOTAL	
	N	PERCENT PASSING	N	PERCENT PASSING	N	PERCENT PASSING	N	PERCENT PASSING
World History I, General			1	100	1	100	2	100
World History II, General			1	100	1	100	2	100
Native Heritage	1	100	1	100			2	100
TOTAL	1	100	3	100	2	100	6	100

SPRING COURSES	GRADE 9		GRADE 10		GRADE 11		TOTAL	
	N	PERCENT PASSING	N	PERCENT PASSING	N	PERCENT PASSING	N	PERCENT PASSING
American History I, General			2	100	3	100	5	100
World History I, General			1	100			1	100
Eastern Civilization			1	100	1	100	2	100
American Studies			2	50			2	50
Asian Studies			4	75			4	75
Native Heritage Studies	2	100	1	100			3	100
TOTAL	2	100	11	82	4	100	17	88

Native Language Arts Performance

As the data presented in Tables 27 through 29 indicate, all groups also did very well in their native language arts courses. Again, all groups in both schools exceeded a passing rate of 80 percent in both semesters. In fact, the only group to fail to exceed 90 percent at any time were the Vietnamese-speaking students at Seward Park in the spring term.

Table 27. Number and percent of Chinese-speaking students passing teacher-made examinations in native language arts at Seward Park High School.

	FALL 1980			SPRING 1981		
GRADE	N	NUMBER PASSING	PERCENT PASSING	N	NUMBER PASSING	PERCENT PASSING
9	11	10	91	11	10	91
10	239	234	98	243	229	94
11	7	7	100	3	3	100
12	2	2	100			
TOTAL	259	253	98	257	242	94

Table 28. Number and percent of Vietnamese-speaking students passing teacher-made examinations in native language arts at Seward Park High School.

	FALL 1980			SPRING 1981		
GRADE	N	NUMBER PASSING	PERCENT PASSING	N	NUMBER PASSING	PERCENT PASSING
10	26	24	92	30	25	83

Table 29. Number and percent of students passing teacher-made examinations in native language arts at Washington Irving High School.

	FALL 1980			SPRING 1981		
GRADE	N	NUMBER PASSING	PERCENT PASSING	N	NUMBER PASSING	PERCENT PASSING
9	4	4	100	4	4	100
10	17	17	100	17	17	100
11	3	3	100	3	3	100
TOTAL	24	24	100	24	24	100

Business Education Performance

Performance in business education courses is reported on in Tables 30 and 31. Program participants again had outstanding results. Only the ninth graders taking typing in the spring at Washington Irving (with five of the 16 failing) passed at less than an 80 percent rate. Interestingly, in spite of having far fewer students, Washington Irving offered (or at least reported) a larger diversity of courses for its students in this area.

Table 30. Number of students attending courses and percent passing teacher-made examinations in business education at Seward Park High School.

FALL COURSES	GRADE 9		GRADE 10		GRADE 11		GRADE 12		TOTAL	
	N	PERCENT PASSING	N	PERCENT PASSING	N	PERCENT PASSING	N	PERCENT PASSING	N	PERCENT PASSING
Typing			44	100			4	100	48	100
Accounting	1	100	43	98	9	100	4	100	57	98
TOTAL	1	100	87	99	9	100	8	100	105	99

SPRING COURSES	GRADE 9		GRADE 10		GRADE 11		GRADE 12		TOTAL	
	N	PERCENT PASSING	N	PERCENT PASSING	N	PERCENT PASSING	N	PERCENT PASSING	N	PERCENT PASSING
Typing			66	94			5	80	71	93
Accounting	2	100	84	91	8	100	5	100	99	92
TOTAL	2	100	150	92	8	100	10	90	170	92

Table 31. Number of business education course enrollments and percent in which students passed teacher-made examinations at Washington Irving High School.

FALL COURSES	GRADE 9		GRADE 10		GRADE 11		GRADE 12		TOTAL	
	N	PERCENT PASSING	N	PERCENT PASSING	N	PERCENT PASSING	N	PERCENT PASSING	N	PERCENT PASSING
Typing	7	86	11	82	4	100	1	100	23	87
Accounting			2	100	2	100			4	100
Business Skills			3	100					3	100
Commercial Record Keeping			3	100					3	100
TOTAL	7	86	19	89	6	100	1	100	33	91

SPRING COURSES	GRADE 9		GRADE 10		GRADE 11		GRADE 12		TOTAL	
	N	PERCENT PASSING	N	PERCENT PASSING	N	PERCENT PASSING	N	PERCENT PASSING	N	PERCENT PASSING
Business Ed.			2	100					2	100
Typing	16	69	22	100	5	100			43	88
Accounting			6	100	2	100			8	100
Commercial Record Keeping			3	100					3	100
TOTAL	16	69	33	100	7	100			56	91

Performance in Miscellaneous Courses

Results from a variety of vocational and language arts courses are reported on in Tables 32 and 33. Here again we find outstanding success rates. The only major exception to this generally glowing picture is the music and language arts course offered at Seward Park in the fall. Only five of the eight program participants enrolled managed to pass in the fall though 91 percent of those taking it in the spring did well. With this exception and that of computer programming at Washington Irving in the spring where 80 percent succeeded, more than 90 percent of students in all grades and in all courses passed.

Table 32. Number of miscellaneous course enrollments and percent in which students passed teacher-made examinations at Seward Park High School.

FALL COURSES	GRADE 9		GRADE 10		GRADE 11		GRADE 12		TOTAL	
	N	PERCENT PASSING	N	PERCENT PASSING	N	PERCENT PASSING	N	PERCENT PASSING	N	PERCENT PASSING
Computer Programming			4	100			8	100	12	100
Practical Arts			13	92	5	100			18	94
Music and Language Arts			2	50			6	67	8	63
Fine Arts and Language Arts			3	100			5	100	8	100
Photography and Language Arts			2	100					2	100
TOTAL			24	92	5	100	18	89	48	92

SPRING COURSES	GRADE 9		GRADE 10		GRADE 11		GRADE 12		TOTAL	
	N	PERCENT PASSING	N	PERCENT PASSING	N	PERCENT PASSING	N	PERCENT PASSING	N	PERCENT PASSING
Computer Programming			2	100	1	100	9	89	12	92
Practical Arts			34	97	7	100			41	98
Music and Language Arts			14	93			8	88	22	91
Fine Arts and Language Arts	1	100	12	92			8	100	21	95
Photography and Language Arts			7	100					7	100
TOTAL	1	100	69	96	8	100	25	92	103	93

Table 33. Number of miscellaneous course enrollments and percent in which students passed teacher-made examinations at Washington Irving High School.

FALL COURSES	GRADE 9		GRADE 10		GRADE 11		TOTAL	
	N	PERCENT PASSING	N	PERCENT PASSING	N	PERCENT PASSING	N	PERCENT PASSING
Vocational Ed.	6	100					6	100
Health Careers	1	100	10	100	4	100	15	100
Computer Programming	4	100	10	100			14	100
Fine Arts and Language Arts	2	100	7	100			9	100
TOTAL	13	100	27	100	4	100	44	100

SPRING COURSES	GRADE 9		GRADE 10		GRADE 11		TOTAL	
	N	PERCENT PASSING	N	PERCENT PASSING	N	PERCENT PASSING	N	PERCENT PASSING
Vocational Ed.	19	100	10	100			29	100
Health Careers	5	80	10	100	3	100	18	94
Computer Programming	5	60	5	100			10	80
Music and Language Arts	3	100	7	100	1	100	11	100
Fine Arts and Language Arts	2	100	5	100	1	100	8	94
TOTAL	34	91	37	100	5	100	76	96

Attendance

Comparisons of the attendance rates of program participants with that of the school as a whole are presented by grade in Tables 34 and 36. In Table 35 the Seward Park students are also broken down by their native language. These tables contain average rates for the schools and for the various participant groups, the percent differences, values of the t statistic, and levels of statistical significance. The t statistic indicates the extent to which the observed percentage differences vary from what might be expected by chance with the probability (p) indicating the likelihood that the rate of the program group was not actually different from that of the population of the school as a whole. Thus a probability of .01 would indicate that there is less than one chance in 100 that the group in question was just a random sample of students from that school.

As a quick examination of these tables indicates, program students at both schools in all grades and from both language groups had average attendance rates which exceeded the school averages by approximately 20 percent. These differences are statistically significant to an extraordinary degree.

Interestingly, there is a slight tendency for attendance rates to decline with higher grade at Seward Park and just the opposite tendency at Washington Irving. Because the numbers of students in eleventh and twelfth grades at both schools are so small, these patterns should not be taken very seriously, but they may reflect differences in factors at the two schools which affect students at different grade levels differently. This small point aside, attendance rates at all grade levels are extremely impressive.

Table 34. Significance of the difference between attendance percentages of program students and the attendance percentage of Seward Park High School by grade.

Average School-Wide Attendance Percentage: 78.2

GRADE	N	MEAN PERCENTAGE	STANDARD DEVIATION	PERCENTAGE DIFFERENCE	t	p
9	13	99.1	0.6	20.9	117.80	.0001
10	405	98.7	2.7	20.6	153.89	.0001
11	22	98.9	1.1	20.7	89.86	.0001
12	22	97.1	3.7	19.0	24.31	.0001

Table 35. Significance of the difference between attendance percentages of program students and the attendance percentage of Seward Park High School by native language.

Average School-Wide Attendance Percentage: 78.2

NATIVE LANGUAGE	N	MEAN PERCENTAGE	STANDARD DEVIATION	PERCENTAGE DIFFERENCE	t	p
Chinese	414	98.8	2.1	20.7	170.2	.0001
Vietnamese	48	97.8	5.2	19.6	161.7	.0001
TOTAL	462	98.7	2.6	20.6	169.32	.0001

Table 36. Significance of the difference between attendance percentages of program students and the attendance percentage of Washington Irving High School by grade.

Average School-Wide Attendance Percentage: 74.88

GRADE	N	MEAN PERCENTAGE	STANDARD DEVIATION	PERCENTAGE DIFFERENCE	t	p
9	21	97.0	4.7	22.1	21.75	.0001
10	30	97.2	3.4	22.4	35.59	.0001
11	7	99.1	1.1	24.3	59.99	.0001
TOTAL	58	97.4	3.8	22.5	45.45	.0001

VII. CONCLUSIONS AND RECOMMENDATIONS

The Chinese Bilingual Education Program at Seward Park and Washington Irving High Schools successfully achieved most of the goals set for 1980-81. CREST scores indicate that students were mastering basic English-language skills at a rate surpassing that stated in the objectives. The percentage of students passing teacher-made tests in other subjects was impressive (although the reliability of these tests might be improved). Attendance rates for all grades and language groups exceeded an extraordinary 97 percent.

In order to make the program even more successful, the following recommendations are offered:

1. The program's most intense need was to have more licensed bilingual teachers in the content areas; presently, monolingual teachers are conducting these classes for Chinese-dominant students in English, with the assistance of Chinese-speaking paraprofessionals.

As licensing examinations are being given after a long hiatus, qualified paraprofessionals might be encouraged to take them. In any case, it would be helpful if students in classes which presented the most difficulty, such as biology, could be taught in their native language.

2. The practice of teaching Chinese language arts in Mandarin is problematic, since the majority of students are dominant in Cantonese. Many students from Hong Kong and Vietnam do not know Mandarin. It may be burdensome for them to have to learn Mandarin while they are trying to acquire English-language skills.

3. Particular attention should be paid to students who speak neither Mandarin nor Cantonese, i.e. those who speak Toisanese or Swatowese. If it is

not possible to locate paraprofessionals who can speak to students in those languages, the program might develop other resources in the district, city, or state, and should in general explore other means of serving the variety of students in the program.

4. In order to place test results in content areas in a larger setting, they should be compared to those of students in the school as a whole. As stated in the program's goals and objectives, these data should be collected and analyzed.

5. In those content-area classes where monolingual English-speaking teachers are assisted by Chinese-speaking paraprofessionals, selection of materials is at the sole discretion of the teacher. Because they do not read Chinese, these teachers generally do not take advantage of materials in the students' native language. A broad array of such materials is apparently available, including a translation of the world history textbook into Chinese. Staff development activities might focus on ways that bilingual materials might be incorporated into these courses.